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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,407	07/25/2001	Kenji Inage	110198	4094

25944 7590 01/30/2003

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EXAMINER
LE, MINH

ART UNIT	PAPER NUMBER
2652	

DATE MAILED: 01/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,407	INAGE ET AL.	
	Examiner	Art Unit	
	Minh Le	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamoto et al. (U.S Pat. No. 5,936,810).

As to claims 1, 4, 7 and 10, Nakamoto shows in Fig. 13 a thin film magnetic head having magnetoresistive device comprising a magnetoresistive element 41 having two surfaces that face toward opposite directions and two side portions that connect the two surfaces to each other, two bias field applying layers 33, 33 that are located adjacent to the side portions of the magnetoresistive element and apply a bias magnetic field to the magnetoresistive element, and two electrode layers 31, 31 that feed a current used for signal detection to the magnetoresistive element, each of the electrode layers being adjacent to one of surfaces of each of the bias field applying layers, wherein the two bias field applying layers are located off one of the surfaces of the magnetoresistive element, and at least one of the electrode layers overlaps the one of the surfaces of the magnetoresistive element (See col. 12, lines 27-67).

As to claims 1, 4, 7, and 10, Nakamoto does not expressly disclose the magnetoresistive device wherein a total length of the regions of the two electrode layers that are laid over the one of the surfaces of the magnetoresistive element is smaller than 0.30 μm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a magnetoresistive device wherein a total length of the regions of the two electrode layers that are laid over the one of the surfaces of the magnetoresistive element is smaller than 0.30 μm.

The motivation would have been obvious because one of ordinary skill in the art would have been motivated to modify the total length of the regions of the two electrode layers, which are laid over the one of the surfaces of the magnetoresistive element to be smaller than 0.30 μm in the course of routine engineering optimization/experimentation to provide a magnetoresistive head which can produce a high production output from the strength of the magnetic domain control layer.

Moreover, absent in showing of criticality, i.e., unobvious or unexpected results, the conditions "smaller than 0.30 μm" as set forth in claims 1, 4, 7 and 10 is considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

In furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); *see In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; *see Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir.

1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

As to claims 3, 6, 9 and 12, Nakamoto shows in Fig. 11 the magnetoresistive device wherein a space 32 between the two electrode layers is equal to or smaller than approximately 0.6 μm ("the electrode spacing 32 is reduced to 0.5 μm" in col. 9, lines 29-31).

As to claims 2, 5, 8, 11, Nakamoto shows in Fig. 1 the magnetoresistive device wherein both of the electrode layers 14, 14 overlap the one of the surfaces of the magnetoresistive element.

As to claims 2, 5, 8, 11, Nakamoto does not expressly disclose the magnetoresistive device wherein a length of the region of each of the two electrode layers that is laid over the one of the surfaces of the magnetoresistive element is smaller than 0.15 μm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a magnetoresistive device wherein the length of the region of each of the two electrode layers that is laid over the one of the surfaces of the magnetoresistive element is smaller than 0.15 μm.

The motivation would have been obvious because one of ordinary skill in the art would have been motivated to modify the length of the region of each of the two electrode layers, which is laid over the one of the surfaces of the magnetoresistive element to be smaller than 0.15 μm in the course of routine engineering optimization/experimentation to provide a magnetoresistive head which can produce a high production output from the strength of the magnetic domain control layer.

Moreover, absent in showing of criticality, i.e., unobvious or unexpected results, the condition "smaller than 0.15 μm" as set forth in claims 2, 5, 8, 11 is considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

In furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); *see In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; *see Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Inquires

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Le whose telephone number is (703) 305-7867. The examiner can normally be reached on 10:00AM - 7:00PM (Mon- Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3718 for regular communications and (703) 305-3718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

ML
January 27, 2003

HOA T. NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
1/27/03